Trip Report: Ashy Storm-Petrel Monitoring

Report prepared by Desareé Williams, Ernest F. Hollings scholar, and Danielle Lipski, CINMS Research Assistant (with assistance from Harry Carter and Bill McIver, seabird researchers)

Ashy Storm-Petrels (*Oceanodroma homochroa*) are thought to number approximately 10,000 worldwide; almost all feed in the waters off California and over half breed in the Channel Islands. Because of the species' small population and restricted range, this species has been designated as a California state species of special concern. These small seabirds are vulnerable to various human impacts, such as trampling, pollution, lights, and habitat degradation, plus predation by raptors and small mammals. Seabird biologists Bill McIver and Harry Carter have been studying and monitoring the Ashy Storm-Petrel population on Santa Cruz Island since 1995. In 2005-06, nest monitoring to determine trends in reproductive success and population size has been continued by Carter Biological Consulting (Victoria, British Columbia, Canada), in cooperation with Channel Islands National Marine Sanctuary (CINMS) and Channel Islands National Park (CINP). In 2005, funding was provided by the California Department of Fish and Game. In 2006, funding was provided by the U.S. Fish and Wildlife Service (Carlsbad), in advance of restoration work planned in the near future through the Montrose Seabird Restoration Program. This report documents the monitoring trip on June 14-16, 2006.

Research crew in Cave of the Birds' Eggs.

On Wednesday June 14, McIver and Carter departed for Santa Cruz Island on the RV *Shearwater* and were accompanied by Dani Lipski, CINMS Research Assistant, and Desareé Williams, CINMS Hollings scholar.

After a windy journey across the Channel, the crew began monitoring at Cave of the Birds' Eggs on the northwest end of the Island. Inside the dry sea cave, McIver and Carter searched for nests using small flashlights, while Lipski and Williams recorded data. Researchers were equipped with maps of each site detailing the locations of petrel nests in past years.

Once a nest was located, the data recorder wrote down whether the nest was empty or contained either an adult petrel incubating the single egg, a broken eggshell, or a single chick. The adult's response to the researchers was also noted. On this trip, most nests had adults incubating eggs, although a few chicks had just hatched. Numbers of nests seemed similar to past years.

This broken Ashy Storm-Petrel egg with yolk/albumen visible was found at a nest site

When a new nest was discovered, the characteristics of the nest were briefly recorded and a numbered tag was placed next to it. Ashy Storm-Petrels nest inside crevices and under rocks or driftwood. One adult of a pair incubates the egg in the crevice all day while the other adult feeds far out to sea; after several days, the adults trade places at night. While these adaptations reduce predation, the fragile nest sites leave them vulnerable to trampling or rock slides.

Alongside some of the petrel nests in Cave of the Birds Eggs, Pigeon Guillemots (*Cepphus columba*) also nested. A few dead adult guillemots were found, possibly eaten by owls, gulls, or ravens.

The second site was Orizaba Rock, just offshore of north central part of Santa Cruz Island. McIver and Carter searched crevices under a pile of large boulders while Lipski and Williams again recorded data. Only a few new petrel nests were found at this site, much lower than numbers found in 1995. Restoration efforts may benefit this colony. We also found one Western Gull (*Larus occidentalis*) nest and one Black Oystercatcher (*Haematopus bachmani*) nest.

Two eggs in a Black Oystercatcher nest.

At Cavern Point Cove Caves at the northeast end of Santa Cruz Island, two relatively small caves were searched and a few nests were recorded. Numbers were similar to previous years, despite a rockslide near the entrance of one cave.

Bat Cave, also off the northeast end of Santa Cruz Island, was monitored on Friday June 16, after rough sea conditions prevented access on June 14-15. In years past, this cave had the highest density and total number of nests compared to other caves on Santa Cruz Island. The cave is large with complex habitat features and side caverns creating many suitable nesting sites for the birds. However, in 2005, two Channel Islands Spotted Skunks (*Spilogale gracilis amphiala)* gained access to the cave, killed many adult petrels, and apparently ate all of their eggs, decimating the Ashy Storm-petrel colony nesting there. One skunk was removed by CINP staff in 2005 but one was still present at the end of the season. No skunks had been noted in any sea cave at Santa Cruz Island in 1995-2004. McIver and Carter had hoped that some petrels had survived this massacre and would form a core group to speed the repopulation of this colony over time. In March 2006, CINP staff placed traps in Bat Cave to remove any skunks present in the cave prior to the 2006 breeding season. Regardless, only three nests were found on 16 June, indicating that very few petrels had survived the 2005 massacre and it may take a long time for the colony to recover, if it recovers at all. Restoration efforts may assist recovery of this colony.

Four more research trips are planned in July, September, and October to complete monitoring the Ashy Storm-Petrel population at Santa Cruz Island in 2006. Final numbers of nests and reproductive success will not be known until the end of the season.